

Date: Tuesday, 12/12/2006 7:39:04 AM
User: Kim Johnston

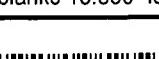
Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services			Drawing Name	: BLADE		
Job Number	: 29868			Part Number	: D2741		
Estimate Number	: 10327			Drawing Number	: D2741 REV C		
P.O. Number	: N/A			Project Number	: N/A		
This Issue	: 12/12/2006	S.O. No.	: N/A	Drawing Revision	: C		
Prsht Rev.	: NC			Material	: N/A		
First Issue	: N/A			Due Date	: 1/10/2007		
Previous Run	: 28521			Qty:	30	Um:	Each
Written By	: <u>JLM</u>						
Checked & Approved By	: <u>JLM</u> 06-12-12						
Comment	Est Rev: D 00.11.15 Removed P/O turning - in house processEC Est Rev: E 06-03-20 As Per Rev C JLM Est Rev: F 06.04.20 Added grinding after heat treating EC						

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M4130NB0500X03000	4130 Bar 0.5 x 3.0"
		
Comment:	Qty.: 1.2118 f(s)/Unit Total: 36.3542 f(s)	
	4130 BAR 0.5 x 3.0"	
Material: 4130 steel bar 0.50" x 3.00"	Batch: <u>M102544</u>	Ep 06/12/15 (30)
2.0	BAND SAW	BAND SAW
		
Comment:	BAND SAW	
	Cut blanks 13.850" long +0.063" -0.000"	Ep 06/12/15 (30)
3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
		

En 061215 (30)

Ep 06/12/15 (30)

J.L / J.F. 06/12/17 (30)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 12/12/2006 7:39:04 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLADE

Job Number: 29868

Part Number: D2741

Job Number:



Seq. #: Machine Or Operation:

Description :

4.0 QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.F. 06/12/17 (30)

5.0 QC8

SECOND CHECK



Comment: SECOND CHECK

SD 06.12.17

6.0 SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

SB 06/12/20 (30)

1-Deburr ✓

2-Bend per Dwg D2741

J.F. 06/12/17

7.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

AS 06/12/20 (30)

8.0 PG

PURCHASING



Comment: PURCHASING

Issue P/O: 2759

c/06/12/21

(30)

Harden material as per Dwg D2741

Min. Ultimate Tensile Strength = 152 ksi (30-40 HRC)

Min. Yield Tensile Strength = 141 ksi

Test report or Certification required

9.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive and Inspect for transit damage

Ensure Test report or Certification attached

PC 7/01/16 (30)

10.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07.01.16 (30)

11.0 SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Grind off carbon deposits

YL 07/01/22

~~AN~~ ~~07/01/22~~

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA:  Date: 07/01/29
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 12/12/2006 7:39:04 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLADE

Job Number: 29868

Part Number: D2741

Job Number:



Seq. #: Machine Or Operation:

Description :

12.0 POWDER COATING

POWDER COATING



M103141



(301)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

m.a/4/ 07/01/25

13.0 QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

10/10/26 (30)

14.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock
Location: 57150

PP 04/09/26 (30)

07/01/25

15.0 QC21

FINAL INSPECTION/W/O RELEASE



(30)

Comment: FINAL INSPECTION/W/O RELEASE

07/01/29

Job Completion



U 07.01.29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	29868
Description: Blade	Part Number:	D2741
Inspection Dwg: D2741	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

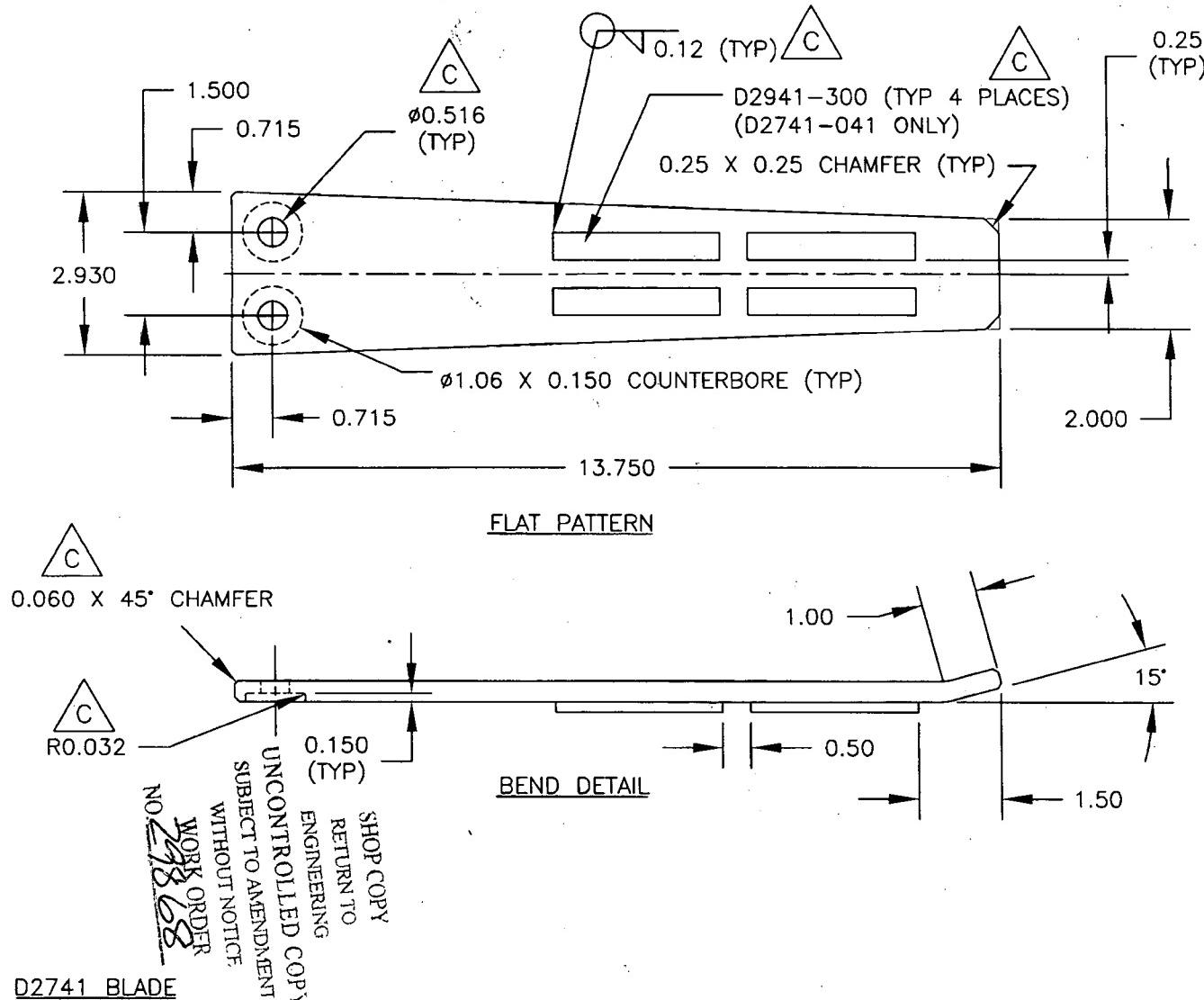
X First Article  Prototype

Measured by:	J.L.	Audited by:	E.O.	Prototype Approval:	N/A
Date:	06/18/15	Date:	06/12/15	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.12.22	New Issue	KJ/RF	
B	06.03.09	Revised per Rev. C	KJ/JLM	<i>[Signature]</i>

DART**RELEASED**
06.02.07

DESIGN <i>PH</i>	DRAWN BY <i>JH</i>	DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED <i>JK</i>	APPROVED <i>JH</i>	DRAWING NO. D2741
DATE 06.01.12	TITLE BLADE	REV. C SHEET 1 OF 1 SCALE 1:3
A	98.04.16	NEW ISSUE
B	98.09.01	CHANGE C'SINK TO C'BORE
C	06.01.12	LARGER HOLE, ADD RADIUS AND CHAMFER ADD -041/-043 OPTIONS

**D2741 BLADE**

- 1) MATERIAL: AISI 4130 STEEL 0.375 THICK
MIN. ULTIMATE TENSILE STRENGTH = 152 ksi (34-40 HRC)
MIN. YIELD TENSILE STRENGTH = 141 ksi
- 2) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.030 TO 0.060
- 6) TO MAKE D2741-041, WELD D2941-300 (4) AS SHOWN ABOVE.
REMOVE POWDER COAT FROM SURFACE OF D2941-300
- 7) TO MAKE D2741-043, WELD 7560 HARDCOAT ROD INSTEAD OF D2941-300



VAC AERO
INTERNATIONAL INC.

RELEASE NOTE

GST No.: R105468102

OAK 82766-1

HEAD OFFICE
1371 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489

2009 WYECROFT ROAD, UNIT B
OAKVILLE, ONTARIO
CANADA L6I 6J4
TEL: (905) 827-7377 FAX: (905) 827-1380

QUEBEC DIVISION
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5
TEL: (514) 334-4240 FAX: (514) 334-6269

01/12/2007

MM / DD / YYYY

PAGE : 1

1DAR01

BILL TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
01/12/2007		ORIGIN
PO00002759		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D2741	B29868 BLADE	EA	30	30	
	Process Specifications: <i>[Signature]</i> Procedure: 4161 HARDENED PER DWG. D2741 TO 152 KSI MINIMUM HARDNESS TESTED AS PER ASTM E-18: HRC 34-40 MATERIAL: 4130				100% HARDNESS TESTED <i>30 pcs -> 37/38 Hrc</i>

PS# 274736

V.A.I.O.
TH.
27
Q.C.

I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Authorized Q.C. Inspector



VACUUM BRAZING · HEAT TREATING · SPECIAL PROCESSING · FURNACE EQUIPMENT
TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS



HEAT
TREATING